

**ABSTRACT**

The current invention includes to systems and methods of transferring cryogenic fluids between two locations. More particularly, some embodiments of the invention are related to systems and methods of using cryogenic risers and rotatable connections for transferring cryogenic fluids, including liquefied natural gas, from an ocean going vessel to a second location. One embodiment of the invention includes a system for transporting a cryogenic fluid between a floating vessel and a second location. The system including a cryogenic riser, a submersible turret connector. The being riser adapted to allow the vertical position of the first end of the riser to be changed, the second end of the first riser located in a body of water and in fluid communication with the second location. The submersible turret connector connected to the first end of the first riser. The first connector adapted for releasably connecting to a first floating vessel located on the body of water so that a cryogenic fluid can be communicated between the first vessel and the first end of the first riser, the first connector being moored to the bottom of the body of water such that the vertical position of the first connector can be changed, and the first connector adapted to allow the first vessel to rotate around the first connector upon the surface of the body of water while the first vessel is connected to the first connector.